CLAIMS:

1. A process for preparing fine particulate protein substances or mixtures thereof, having a particle size in the nano (nm) - to micrometer (μm) range, which comprises grinding the substance or substance mixture at a low temperature in a suspending medium in which said substance or mixture is substantially insoluble, and removing said suspending medium .

2. The process of claim 1, wherein said suspending medium is an unsubstituted hydrocarbon, a hydrocarbon mono-or -polysubstituted by fluorine, or mixtures thereof.

3. The process of claim 1, wherein said suspending medium is a hydrocarbon mono- or -polysubstituted by fluorine, selected from one or more of TG227, TG134a, TG152a, TG143a, and mixtures thereof.

4. The process of claim 1, wherein said suspending medium is an unsubstituted hydrocarbon which is at least one of butane, isobutane, pentane, hexane, and heptane.

5. The process of claim 1, wherein said suspending medium is at least one of isobutane, pentane, hexane, heptane, TG227, TG134a, TG152a, and TG143a.

6. The process of claim 1, wherein said low temperature is <-30°C, -40°C, <-50°C. or <-60°C.

7. The process of claim 1, wherein before or after grinding the protein or protein mixture substance an excipient is added to the mixture, said excipient being one or more of lactose, dextrose, sorbitol, mannitol, a polyol, xylitol, disaccharide, polysaccharide, and oligosaccharide.

8. The process of claim 1, wherein the protein or protein mixture to be ground, is abarelix, buserelix, cetrorelix, leuprolide, cyclosporine, ganirelix, glucagon, lutropin (LH), insulin, ramorelix, or teverelix (Antarelix).

9. A solid, fine-particulate pharmaceutical preparation which comprises at least one active compound for inhalatory administration in mammals, when obtained by the process of claim 1.

10. The solid, fine-particulate pharmaceutical preparation of claim 9, wherein said active compound is abarelix, buserelix, cetrorelix, leuprolide, cyclosporine, ganirelix, glucagon, lutropin (LH), insulin, ramorelix, or teverelix (Antarelix).

11. The solid, fine-particulate pharmaceutical preparation of claim 9 when filled into a powder inhaler.

12. The solid, fine-particulate pharmaceutical preparation of claim 9, wherein said powder inhaler is DPI, MDPI or a blister inhaler.

13. A process for applying a fine-particulate substance or substance mixture to a carrier material, which comprises stripping off by thorough mixing the suspending medium from a suspension of said fine particulate substance or mixture, said carrier material and said substance or mixture being substantially insoluble in said suspending medium.

14. The process of claim 13, wherein said suspending medium is gaseous at ambient pressure and temperature.

15. The process of claim 13, wherein said suspending medium is one or more of unsubstituted hydrocarbons, and of hydrocarbons mono- or polysubstituted by fluorine.

16. The process of claim 13, wherein said suspending medium is one or more of isobutane, pentane, hexane, heptane, TG227, TG134a, TG152a, and TG143a.

17. The process of claim 13, wherein said carrier material is one or more of a spherical lactose having a smooth surface, and an agglomerated lactose having a rough surface.

18. The process of claim 13, wherein said fine particulate substance or mixture has an average particle size of of from about 0.1 to about l0 μm, and said carrier material has an average particlie size of from about 10 to about 900 μm.

19. The process of claim 13, wherein said suspendig medium further contains an excipient which is one or more of lactose, dextrose, sorbitol, mannitol, a polyol, xylitol, disaccharide, polysaccharide, and oligosaccharide, dextrin, amino acid, solid lipid, solid phopholipid, vitamin, surfactant, and polymer.